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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,358	12/21/2001	Mikhail Godkin	2102483-906410	4974
29585	7590	10/06/2003	EXAMINER	
GRAY CARY WARE & FREIDENRICH LLP			LE, DANG D	
153 TOWNSEND			ART UNIT	
SUITE 800			PAPER NUMBER	
SAN FRANCISCO, CA 94107			2834	

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/032,358	GODKIN, MIKHAIL	
	Examiner	Art Unit	
	Dang D Le	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>1202</u> | 6) <input type="checkbox"/> Other: _____ |

1201.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4, 6, 8, 10, 16, 17, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Petersen (4,363,980).

Regarding claim 1, Petersen shows motor comprising:

- An armature assembly (12), and
- A field assembly (34), including a plurality of permanent magnets (30, 32) each having a length, and
- A plurality of pole pieces (40, 28, 44) each having a length, and wherein the ratio between the length of the plurality of permanent magnets (X) and the length of the plurality of pole pieces (X'-X) is tailored to achieve a constant force versus stroke characteristic.

Regarding claim 2, Petersen shows motor comprising:

- An armature assembly, and
- A field assembly positioned with respect to the armature assembly so that an air gap is formed between them, including a plurality of permanent magnets each having a length, and

- A plurality of pole pieces each having a length, and
- Wherein the ratio between the length of the plurality of permanent magnets (X) and the length of the plurality of pole pieces (X'-X) is selected to provide a sinusoidal distribution of a normal component of flux density in the air gap (Figure 6).

Regarding claims 4, 6, 8, and 10, it is noted that Petersen also shows all of the limitations of the claimed invention.

Regarding claims 16, 17, and 19, the method of forming a linear motor would be inherent and obvious since the prior art references meet the structural limitations of the claimed device.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 5, 7, 9, 11-15, 18, and 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen in view of Hirabayashi et al. (5,434,549)

Regarding claim 3, Petersen shows all of the limitations of the claimed invention except for a housing comprising magnetic material, and end caps including end pole pieces having a length, and positioned on the field assembly so that the field assembly, the end caps and the housing form a common magnetic circuit; and wherein the ratio of the length of the end pole pieces to the length of the plurality of pole pieces is selected

so that a sinusoidal force versus entire stroke characteristic is obtained for the brushless DC motor.

Hirabayashi et al. show a housing (1, Figures 19-30) comprising magnetic material, and end caps (8A, 8B) including end pole pieces having a length, and positioned on the field assembly so that the field assembly, the end caps and the housing form a common magnetic circuit; and wherein the ratio of the length of the end pole pieces to the length of the plurality of pole pieces is selected so that a sinusoidal force versus entire stroke characteristic is obtained for the brushless DC motor (Figure 23A) for the purpose of permitting smooth movement.

Since Petersen and Hirabayashi et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a housing and end caps and to select the length as taught by Hirabayashi et al. for the purpose discussed above.

Regarding claims 5, 7, 9, it is noted that Petersen also shows all of the limitations of the claimed invention.

Regarding claims 11 and 12, it is noted that Hirabayashi et al. also show all of the limitations of the claimed invention.

Regarding claims 13-15, it is noted that Petersen and Hirabayashi et al. also show all of the limitations of the claimed invention.

Regarding claims 18 and 20-26, the method of forming a linear motor would be inherent and obvious since the prior art references meet the structural limitations of the claimed device.

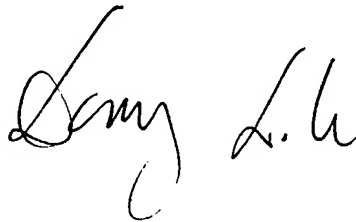
Information on How to Contact USPTO

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

9/20/03

A handwritten signature in black ink, appearing to read 'Dang D Le'.

**DANG LE
PRIMARY EXAMINER**